

IN THE CLAIMS:

Please amend the claims as indicated below.

1. (Previously Presented) A method for storing a packet in a shared memory in a
5 packet switch, said method comprising the step of:

storing in said shared memory, wherein said shared memory comprises two or
more buffers and two or more banks, at least a portion of a packet in contiguous banks of a first
buffer of said two or more buffers, wherein each of said banks comprises portions, wherein each
of said two or more buffers comprises a portion from each of said plurality of banks, and wherein
10 each of said buffers identifies an address of a location in each of said banks.

2. (Previously Presented) The method of claim 1, wherein said packet comprises a
plurality of portions, and further comprising the step of storing an additional portion of said
packet in contiguous banks of a second buffer if one of said portions is stored in a last bank of
15 said first buffer and said portion stored in said last bank of said first buffer is not a last portion of
said packet.

3. (Previously Presented) The method of claim 1, wherein each of said two or more
buffers comprises one or more groups and each of said groups comprises a plurality of banks.
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4. (Original) The method of claim 1, wherein at least a portion of each of two or
more packets are stored in one of said buffers.

5. (Original) The method of claim 1, further comprising the step of cyclically
25 accessing one or more data ports, each of said data ports corresponding to one or more of said
plurality of banks.

6. (Original) The method of claim 1, wherein said banks are divided into a first set
of banks and a second set of banks, and further comprising the step of allocating a buffer that
30 comprises one or more banks from said first set and a buffer that comprises one or more banks
from said second set in response to a buffer request.

7. (Original) The method of claim 1, wherein said shared memory exchanges packets between ports in said packet switch.

8. (Previously Presented) The method of claim 1, wherein sequential data units of said packet are stored in contiguous banks of at least one of said two or more buffers.

9. (Currently Amended) A method for managing a shared memory in a packet switch, said shared memory comprising one or more buffers, said method comprising the step of: maintaining a buffer usage count for at least one of said buffers, wherein said

buffer usage count provides an indication of a sum over all packets in said at least one of said buffers of a number of output ports toward which each of said packets is destined, wherein said at least one of said buffers contains two or more packets and wherein at least one of said two or more packets is destined for more than one output port; and

adding said at least one of said buffers to a free buffer list if a release of said at least one of said buffers does not occur within a predefined period of time.

10. (Original) The method of claim 9, further comprising the step of incrementing said buffer usage count by one to indicate that a packet destined for one output port is stored in said buffer.

11. (Original) The method of claim 9, further comprising the step of decrementing said buffer usage count by one when a data unit is read from said buffer and said data unit is the last data unit of a packet or the last data unit of said buffer.

12. (Original) The method of claim 9, wherein said buffer usage count indicates a number of destination ports for a packet to perform a multicasting operation.

13. (Original) The method of claim 9, further comprising the step of determining whether a buffer is free based on said buffer usage count.

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

5 17. (Cancelled)

18. (Previously Presented) A shared memory for storing a packet, comprising:

two or more buffers and two or more banks, wherein each of said banks comprises portions, wherein each of said two or more buffers comprises a portion from each of
10 said plurality of banks, wherein each of said buffers identifies an address of a location in each of said banks, and wherein at least a portion of said packet is stored in contiguous banks of a first buffer of said two or more buffers.

19. (Previously Presented) The shared memory of claim 18, wherein said packet comprises a plurality of portions, and wherein an additional portion of said packet is stored in contiguous banks of a second buffer if one of said portions is stored in a last bank of said first
15 buffer and said portion stored in said last bank of said first buffer is not a last portion of said packet.

20. (Previously Presented) The shared memory of claim 18, wherein each of said two or more buffers comprises one or more groups and each of said groups comprises a plurality of
20 banks.

21. (Original) The shared memory of claim 18, wherein at least a portion of each of
25 two or more packets are stored in one of said buffers.

22. (Original) The shared memory of claim 18, wherein said banks are divided into a first set of banks and a second set of banks, and further comprising the step of allocating a buffer that comprises one or more banks from said first set and a buffer that comprises one or more
30 banks from said second set in response to a buffer request.

23. (Original) The shared memory of claim 18, wherein said shared memory exchanges packets between ports in a packet switch.

24. (Original) The shared memory of claim 18, further comprising a counter for
5 monitoring a buffer usage count that provides an indication of the sum over all packets in said at least one of said buffers of the number of output ports toward which each of said packets is destined.